REMARKS

This Amendment is in response to the Office Action dated December 30, 2004. Claims 1-14 are pending. Claims 1-14 are rejected. Claims 1, 7 and 12 have been amended for clarification. Support for these amendments can be found generally throughout the specification and specifically at page 5, line 16 through page 6, line 20 and referring to Figures 3 and 4. Accordingly, claims 1-14 remain pending in the present application.

Drawings

Applicant noticed an error in Figure 3 filed on August 20, 2004. Applicant herewith submits a new Figure 3 that accurately reproduces the original Figure 3 provided upon filing of the application.

Present Invention

A dual port USB interface is disclosed. The dual port interface comprises a USB host port and a USB peripheral port. The host port and the peripheral port are defined using predetermined signals. In a preferred embodiment the dual port USB interface is utilized in a network where at least one dual port USB (DPUSB) connector is connected to either standard USB connectors or other DPUSB connectors. By use of the DPUSB interface, a single device in a network can act as both a host or a peripheral to other devices as well create network peer-to-peer relationships. Use of DPUSB connectors also provides the opportunity of new types of devices such as memory cards and cables that will greatly increase the ease of use of many intelligent electronic devices such as cameras and PDA's.

Claim Rejections – 35 USC 102

The Examiner states,

3.   Claims 1-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Benayoun et al. (U.S. Pat. No. 6,725,302 B1).

As to claim 1, Benayoun teaches a signal I/O interface (fig. 4) comprising:
a host port (UP port 18); and
a peripheral port (DO port 24), wherein the host port and the peripheral port are defined using predetermined signals (col. 4 line 34 to col. 5 line 6 wherein repeater 44 is used to switch and ensure bi-directional connectivity between the upstream port 18 and the downstream port 24).

As to claim 2, Benayoun teaches the interface of claim 1 wherein the host and peripheral ports are USB ports (fig. 4 wherein USB hub 10 comprises the UP port 18 and the DO port 24).

As to claim 3, Benayoun teaches the interface of claim 1 wherein two connected devices can have a peer-to-peer connection via the host port and the peripheral port (fig. 2 host computer 16, modem 36 col. 4 lines 25-33 wherein the host computer can communicate with the modem 36 via the UP port 18 and the DO port 24).

As to claim 4, Benayoun teaches the interface of claim 1 wherein two connected devices can have on-to-many relationship via the host port and the peripheral port (fig. 3 host computer 16, modem 36, video camera 40 col. 4 lines 25-33 wherein the host computer can communicate with the modem 36 and the video camera 40 via the UP port 18 and the DO port 24 and a DO port 42).

As to claim 5, Benayoun teaches the interface of claim 1 wherein a device only needs one physical I/O port via the interface (fig. 3 wherein the host computer 16, the modem 36 or the video camera 40 respectively connects to the USB hub 10 via the UP port 18, the DO port 24 or the DO port 42).

As to claims 6, 11 and 14, Benayoun teaches the predetermined signals comprise host differential data lines and peripheral differential data lines (col. 4 lines 44-47 wherein data are transferred through the repeater 44 from the host computer 16 to the modem 36 and the video camera 40, or from the modem 36 and the video camera 40 to the host computer 16).

As to claim 7, Benayoun teaches a USB network (fig. 3) comprising:
a first device (hub 10); the first device including a signal I/O interface (HUB 1), the interface including a host port (UP); and a peripheral port (DO) wherein the host port and the peripheral port are defined using predetermined signals (fig. 4 col. 4 line 34 to col. 5 line 6 wherein repeater 44 is used to switch and ensure bi-directional connectivity between the UP port 18 and the DO port 24); and
a second device (hub 12) for communicating with the first device, the second device using the predetermined signals (col. 4 line 25-33).

As to claims 8 and 9, Benayoun teaches the predetermined signals are within a standard and the standard comprises the universal serial bus (USB) standard (fig. 4 wherein USB hub 10 comprises the USB UP port 18 and the USB DO port 24).

As to claim 10, Benayoun teaches the USB network of claim 9 wherein the first and second devices can be any of a camera, computer, personal digital assistant, laptop device, handheld device, printer, and cellular telephone (fig. 3 host computer 16, camera 40).

As to claim 12, Benayoun teaches a device (fig. 3 hub 10) comprising:
a processor (fig. 4 controller 46); and

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a single I/O interface (HUB 1) coupled to the processor, the interface comprising a host port (fig. 4 UP port 18); and a peripheral port (fig. 4 DO port 24), wherein the host port and the peripheral port are defined using predetermined signals (col. 4 line 34 to col. 5 line 6 wherein repeater 44 is used to switch and ensure bi-directional connectivity between the UP port 18 and the DO port 24).

As to claim 13, Benayoun teaches the device of claim 12 wherein the single I/O interface requires a connection to only one physical IO/O port (fig. 2 col. 4 lines 9-19) if the device is coupled to a device with a connector that includes a host port and a peripheral port which are defined using the predetermined signals (fig. 5 hub 12, DO port 42, UP port 64 col. 5 lines 7-25).

Applicant respectfully traverses this rejection.

Claims 1-14 are rejected by the Examiner because Figure 4 by Benayoun displayed an USB up stream port (UP) and a USB down stream port (DP). Benayoun discloses a selector switch to chose between the use of the UP and DP ports so that either may use a wireless transmitter. This is similar to the scheme proposed by USB On-The-Go (OTG) discussed in the background section of the present application. In this scheme, only one Port (UP or DP) may be active at one time in any given computer which has this controller implementation.
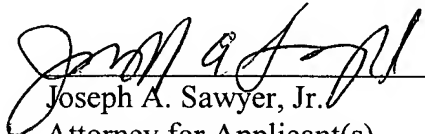
However, in the present invention as recited in amended independent claims 1, 7 and 12, a single I/O interface includes a host port and a peripheral port which are connected to different chipsets. Accordingly these ports in turn can be connected to the same CPU using the separate chipsets to allow for simultaneous activation of the two chipsets. It is precisely by allowing the simultaneous activation of the two chipsets, one for the host port and one for the peripheral port, that makes the single I/O interface in accordance with the present invention different from and therefore not taught or suggested by the Benayoun reference. In addition, claims 2-6, 8-11, 13 and 14 are allowable since they depend from allowable base claims.

In view of the foregoing, it is submitted that the claims 1-14 are allowable over the cited reference and are in condition for allowance. Applicant respectfully requests reconsideration and allowance of the claims as now presented.

Applicants' attorney believes this application in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicants' attorney at the telephone number indicated below.

Respectfully submitted,

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Amendments to the Drawings:

The attached sheet of drawings include changes to Figure 3 that accurately represents the originally filed drawings. This sheet replaces the original sheet for Figure 3.

Attachment: 1 Sheet showing changes to Figure 3